



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,781	12/27/2001	Ho-Kyun Kim	SI-0013	9755
34610	7590	10/03/2005	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			NGUYEN, BINH QUOC	
			ART UNIT	PAPER NUMBER
			2664	
DATE MAILED: 10/03/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,781

Applicant(s)

KIM, HO-KYUN

Examiner

Binh Q. Nguyen

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/27/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claim 22** is objected to because of the following informalities: a term “according the a type” in line 2 of claim 22 is improper. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-24** are rejected under 35 U.S.C. 102(e) as being anticipated by *Benveniste* the U.S. Pub. No.: 2000/0163933.

Regarding claim 1. *Benveniste* teaches a multimedia packet processing system, comprising:

a dynamic back-off access module [see Fig. 3, item “308”] configured to set back-off timers to establish a transmission sequence for packets [see paragraphs 0079, 0131-0133] and further configured to set a priority of the packets [see paragraph 0076] in order to transmit a higher priority packet before a lower priority packet [see paragraphs 0076, 0130, 0164, 0246];

a priority preemption module [see Fig. 3, item “214A-214C”] configured to modify the transmission sequence for the packets in accordance with the priority of packets determined by the dynamic back-off access module [see paragraphs 0122, 0164, 0204]; and

Art Unit: 2664

a buffer configured to store and transmit the packets in accordance with the sequence of the priority preemption module *[see paragraphs 0132, 0326, Fig. 3, item "316"; inherently, "a buffer is a temporary storage location for information being sent or received, and serves the purpose of flow control", that is defined by Newton's Telecom Dictionary 19th, page 126]*.

Regarding claim 2. *Benveniste* teaches the system of claim 1, wherein a media access control (MAC) processor comprises the dynamic back-off access module *[see paragraphs 0136]*, the priority presumption module *[see paragraphs 0141]*, and the buffer *[see paragraphs 0136]*.

Regarding claim 3. *Benveniste* teaches the system of claim 1, where the buffer *[see paragraphs 0132]* transmits packets over a wireless local area network (LAN) *[see Fig. 2s, and 3, paragraphs 0010, 0118]*.

Regarding claim 4. *Benveniste* teaches the system of claim 1, wherein the dynamic back-off access module sets a first back-off time for the higher priority packet and a second back-off time for the lower priority packet *[see paragraphs 0077]*, wherein the first back-off time is less than the second back-off time *[see paragraphs 0118, 0125]*.

Regarding claim 5. *Benveniste* teaches the system of claim 1, wherein the dynamic back-off access module is configured to set the priority of packets to be transmitted in order of video, audio, then ordinary data *[see paragraphs 0076-0077, 0122, 0128]*.

Art Unit: 2664

Regarding claim 6. *Benveniste* teaches the system of claim 1, wherein the priority preemption module [see Fig. 3, item "214A-214C"] is configured to modify the transmission sequence [see paragraphs 0122, 0164, 0204] by preempting the lower priority packet with the higher priority packet [see paragraphs 0129].

Regarding claim 7. *Benveniste* teaches the system of claim 6, wherein lower priority packet data that has been preempted has priority over the lower priority data that has not been preempted [see paragraphs 0077, 0118, 0125].

Regarding claim 8. *Benveniste* teaches the system of claim 1, wherein the lower priority packet comprises an ordinary data packet [see paragraphs 0077] and the higher priority packet comprises one of a video packet and an audio packet [see paragraphs 0077].

Regarding claim 9. *Benveniste* teaches the system of claim 6, wherein the buffer comprises:
a first buffer module configured to store and manage data packets received prior to a back-off process of the dynamic back-off access module [see Fig. 3 item "311", paragraphs 0130-0132];
and
a second buffer module configured to store and manage the preempted lower priority packet waiting to be transmitted after the transmission of the higher priority packet [see Fig. 3 item "309", paragraphs 0130-0132].

Art Unit: 2664

Regarding claim 10, and 21. *Benveniste* teaches a method and an apparatus of processing multimedia packets, comprising:

establishing a priority of data packets to be transmitted [*see paragraph 0122*];
suspending a transmission of data packets being transmitted if higher priority packets are inputted [*see paragraphs 0076, "freezing of the backoff countdown process of lower priority packets" means suspending a transmission of data packets being transmitted if higher priority packets are inputted*] and enabling the higher priority packets to preempt lower priority data packets in the transmission sequence [*see paragraphs 0076, 0130, 0164, 0246*];
storing the preempted data packets [*see paragraphs 0132, 0326, Fig. 3, item "316"; inherently, "a buffer is a temporary storage location for information being sent or received, and serves the purpose of flow control", that is defined by Newton's Telecom Dictionary 19th, page 126*];
transmitting the higher priority packets [*see paragraphs 0122, 0246*]and
transmitting the stored preempted data packets, after the higher priority packets have been transmitted [*see paragraphs 0076-0077, 0130, 0160, 0164*].

Regarding claim 11. *Benveniste* teaches the method of claim 10, wherein storing the preempted data packets and transmitting the higher priority packets are executed simultaneously [*see paragraphs 0047, 0280*].

Regarding claim 12. *Benveniste* teaches the method of claim 10, further comprising establishing the priority of packets to be transmitted in order of video first, audio second, [*see paragraphs 0130-0132, "Block 308 steers data packets 224B and 224C to a second queue 311 for more*

Art Unit: 2664

urgent data having a higher QoS priority, such as voice and video data. Logic 308 can distinguish voice and video data by its streaming media format, for example" video means video first, then voice means audio second], and ordinary data packets third [see paragraphs 0130-0132, Fig. 3, "when timer 310 times out, lower urgency data packet..." means ordinary data packets third].

Regarding claim 13. *Benveniste* teaches the method of claim 12, further comprising setting shorter back-off times for higher priority packets such that higher priority packets are transmitted before lower priority packets [see paragraphs 0076-0077, 0125].

Regarding claim 14. *Benveniste* teaches the method of claim 10, wherein all data is stored in a first buffer prior to transmission [see paragraphs 0130-0132, Fig. 3, item "Queue 309" means a first buffer], and wherein the preempted data packets are stored in a second buffer [see paragraphs 0130-0132, Fig. 3 item "Queue 311" means a second buffer].

Regarding claim 15. *Benveniste* teaches the method of claim 10, wherein transmitting the stored preempted data packets comprises: determining whether all of the higher priority packets that preempted data packets in the transmission sequence have been transmitted [see paragraphs 0120, 0122, 0129];

prioritizing the preempted data packets over non-preempted lower priority data packets [see paragraph 0163];

Art Unit: 2664

transmitting the preempted data packets if the higher priority packets have been transmitted [*see paragraph 0164*]; and

transmitting non-preempted data packets after the preempted data packets have been transmitted [*see paragraphs 0205-0207*].

Regarding claim 16. *Benveniste* teaches an apparatus for processing packets, comprising:

a first buffer configured to store packets for transmission [*see paragraphs 0130–0132, Fig.3, item “Queue 309” means a first buffer*];

a first logic device configured to sequence the stored packets according to a priority [*see paragraphs 0130–0132, Fig.3, item “304” means a first logic device*];

a second logic device configured to preempt a packet of a first priority in the sequence with a packet of a second priority [*see paragraphs 0130–0132, Fig.3, item “306” means a second logic device*];

a second buffer configured to store the preempted packet [*see paragraphs 0130–0132, Fig.3 item “Queue 311” means a second buffer*];

a transmitter configured to transmit the packet of the second priority before transmitting the preempted packet [*see paragraphs 0130–0132, Fig.3 item “Transmission output buffer 316” means a transmitter*], and further configured to transmit the preempted packet upon completion of the transmission of the packet of the second priority [*see paragraphs 0076-0077, 0130-0132, 0160, 0164*].

Art Unit: 2664

Regarding claim 17. *Benveniste* teaches the apparatus of claim 16, wherein the transmitter is configured to transmit the preempted packet before transmitting any other data packets stored in the first buffer [see paragraphs 0130–0132, Fig. 3, item “Queue 309” means a first buffer, and “a buffer is a temporary storage location for information being sent or received, and serves the purpose of flow control”, that is defined by Newton’s Telecom Dictionary 19th, page 126].

Regarding claim 18. *Benveniste* teaches the apparatus of claim 16, wherein the packet of the second priority is one of a video packet and an audio packet [see paragraphs 0130–0132, “Block 308 steers data packets 224B and 224C to a second queue 311 for more urgent data having a higher QoS priority, such as voice and video data. Logic 308 can distinguish voice and video data by its streaming media format, for example; voice means the packets of the second priority are audio packets], and the packet of the first priority is a data packet [see paragraphs 0130–0132, Fig. 3, “when timer 310 times out, lower urgency data packet...” means the packets of the first priority are data packets].

Regarding claim 19. *Benveniste* teaches the apparatus of claim 16, wherein the second logic device [see paragraphs 0130–0132, Fig. 3, item “306” means a second logic device] is further configured to preempt the packet of the second priority with a packet of a third priority [see paragraphs 0130–0132, “Block 308 steers data packets 224B and 224C to a second queue 311 for more urgent data having a higher QoS priority, such as voice and video data. Logic 308 can distinguish voice and video data by its streaming media format, for example” means third priority are video packet].

Regarding claim 20. *Benveniste* teaches the apparatus of claim 19, wherein the packet of the third priority is a video packet, the packet of the second priority is an audio packet, and the packet of the first priority is a data packet *[see paragraphs 0130-0132, Fig. 3, "when timer 310 times out, lower urgency data packet..." means the packets of the first priority are data packets, second priority are audio packets, and third priority are video packets]*.

Regarding claim 22. *Benveniste* teaches a method of transmitting packets on a wireless network, comprising:

prioritizing the packets according to a type of packet *[see paragraphs 0069, 0125]*;
preempting packets of a first priority with packets of a second priority when packets of the second priority are detected *[see paragraphs 0122, 0131, 0164, 0204]*; and
storing preempted packets in a buffer for later transmission *[see paragraphs 0132, 0326, Fig. 3, item "316"; inherently, "a buffer is a temporary storage location for information being sent or received, and serves the purpose of flow control", that is defined by Newton's Telecom Dictionary 19th, page 126]*.

Regarding claim 23. *Benveniste* teaches the method of claim 22, further comprising preempting the packets of the second priority with packets of a third priority *[see paragraphs 0128 – 0131]*.

Regarding claim 24. *Benveniste* teaches the method of claim 23, wherein the packets of the first priority are data packets *[see paragraphs 0130-0132, Fig. 3, "when timer 310 times out, lower*

Art Unit: 2664

urgency data packet...” means the packets of the first priority are data packets], the packets of the second priority are audio packets [see paragraphs 0130–0132, “Block 308 steers data packets 224B and 224C to a second queue 311 for more urgent data having a higher QoS priority, such as voice and video data. Logic 308 can distinguish voice and video data by its streaming media format, for example; voice means the packets of the second priority are audio packets], and the packets of the third priority are video packets [see paragraphs 0130–0132, “Block 308 steers data packets 224B and 224C to a second queue 311 for more urgent data having a higher QoS priority, such as voice and video data. Logic 308 can distinguish voice and video data by its streaming media format, for example” means third priority are video packet].

Contact Information

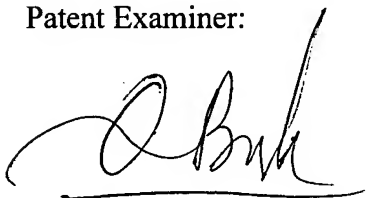
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh Q. Nguyen whose telephone number is 571-272-8563. The examiner can normally be reached on M-F: 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2664

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner:

A handwritten signature in black ink, appearing to read 'Binh Q Nguyen', with a horizontal line underneath.

Binh Q Nguyen

09/22/2005

A handwritten signature in black ink, appearing to read 'Wellington Chin', with a horizontal line extending to the right.

WELLINGTON CHIN
REVISORY PATENT EXAMINER